WOODWORKER'S JOURNAL

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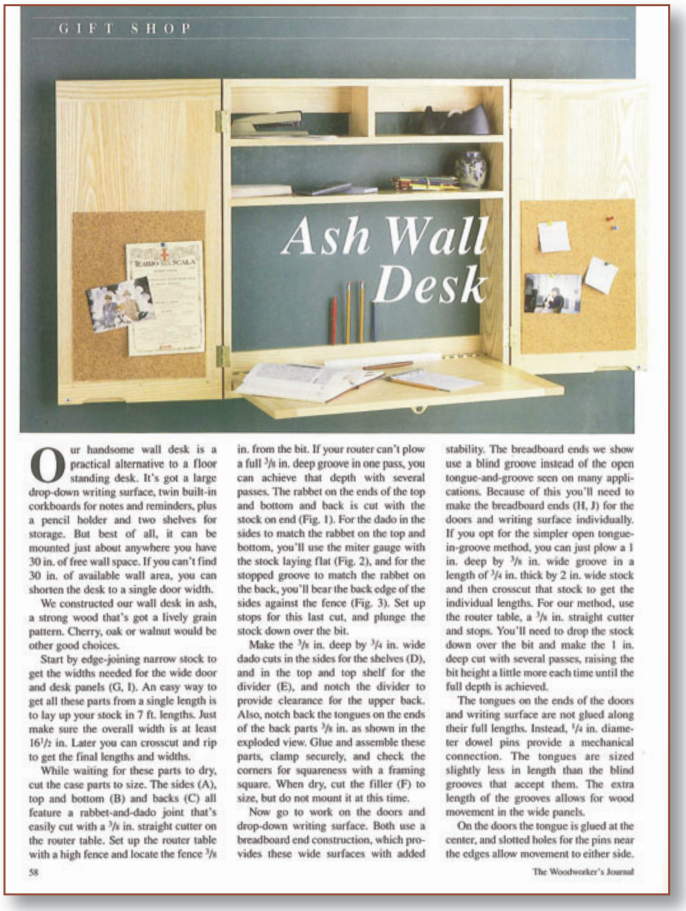
Classic Project

In this plan you'll find:

- Step-by-step construction instruction.
- A complete bill of materials.
- Construction drawings and related photos.
- Tips to help you complete the project and become a better woodworker.

Ash Wall Desk



GIFT SHOP

Ash Wall Desk

Our handsome wall desk is a practical alternative to a floor standing desk. It's got a large drop-down writing surface, twin built-in corkboards for notes and reminders, plus a pencil holder and two shelves for storage. But best of all, it can be mounted just about anywhere you have 30 in. of free wall space. If you can't find 30 in. of available wall area, you can shorten the desk to a single door width.

We constructed our wall desk in ash, a strong wood that's got a lively grain pattern. Cherry, oak or walnut would be other good choices.

Start by edge-joining narrow stock to get the widths needed for the wide door and desk panels (G, I). An easy way to get all these parts from a single length is to lay up your stock in 7 ft. lengths. Just make sure the overall width is at least 16$^{1}/_{2}$ in. Later you can crosscut and rip to get the final lengths and widths.

While waiting for these parts to dry, cut the case parts to size. The sides (A), top and bottom (B) and backs (C) all feature a rabbet-and-dado joint that's easily cut with a $^{3}/_{8}$ in. straight cutter on the router table. Set up the router table with a high fence and locate the fence $^{3}/_{8}$ in. from the bit. If your router can't plow a full $^{3}/_{8}$ in. deep groove in one pass, you can achieve that depth with several passes. The rabbet on the ends of the top and bottom and back is cut with the stock on end (Fig. 1). For the dado in the sides to match the rabbet on the top and bottom, you'll use the miter gauge with the stock laying flat (Fig. 2), and for the stopped groove to match the rabbet on the back, you'll bear the back edge of the sides against the fence (Fig. 3). Set up stops for this last cut, and plunge the stock down over the bit.

Make the $^{3}/_{8}$ in. deep by $^{3}/_{4}$ in. wide dado cuts in the sides for the shelves (D), and in the top and top shelf for the divider (E), and notch the divider to provide clearance for the upper back. Also, notch back the tongues on the ends of the back parts $^{3}/_{8}$ in. as shown in the exploded view. Glue and assemble these parts, clamp securely, and check the corners for squareness with a framing square. When dry, cut the filler (F) to size, but do not mount it at this time.

Now go to work on the doors and drop-down writing surface. Both use a breadboard end construction, which provides these wide surfaces with added stability. The breadboard ends we show use a blind groove instead of the open tongue-and-groove seen on many applications. Because of this you'll need to make the breadboard ends (H, J) for the doors and writing surface individually. If you opt for the simpler open tongue-in-groove method, you can just plow a 1 in. deep by $^{3}/_{8}$ in. wide groove in a length of $^{3}/_{4}$ in. thick by 2 in. wide stock and then crosscut that stock to get the individual lengths. For our method, use the router table, a $^{3}/_{8}$ in. straight cutter and stops. You'll need to drop the stock down over the bit and make the 1 in. deep cut with several passes, raising the bit height a little more each time until the full depth is achieved.

The tongues on the ends of the doors and writing surface are not glued along their full lengths. Instead, $^{1}/_{4}$ in. diameter dowel pins provide a mechanical connection. The tongues are sized slightly less in length than the blind grooves that accept them. The extra length of the grooves allows for wood movement in the wide panels.

On the doors the tongue is glued at the center, and slotted holes for the pins near the edges allow movement to either side.

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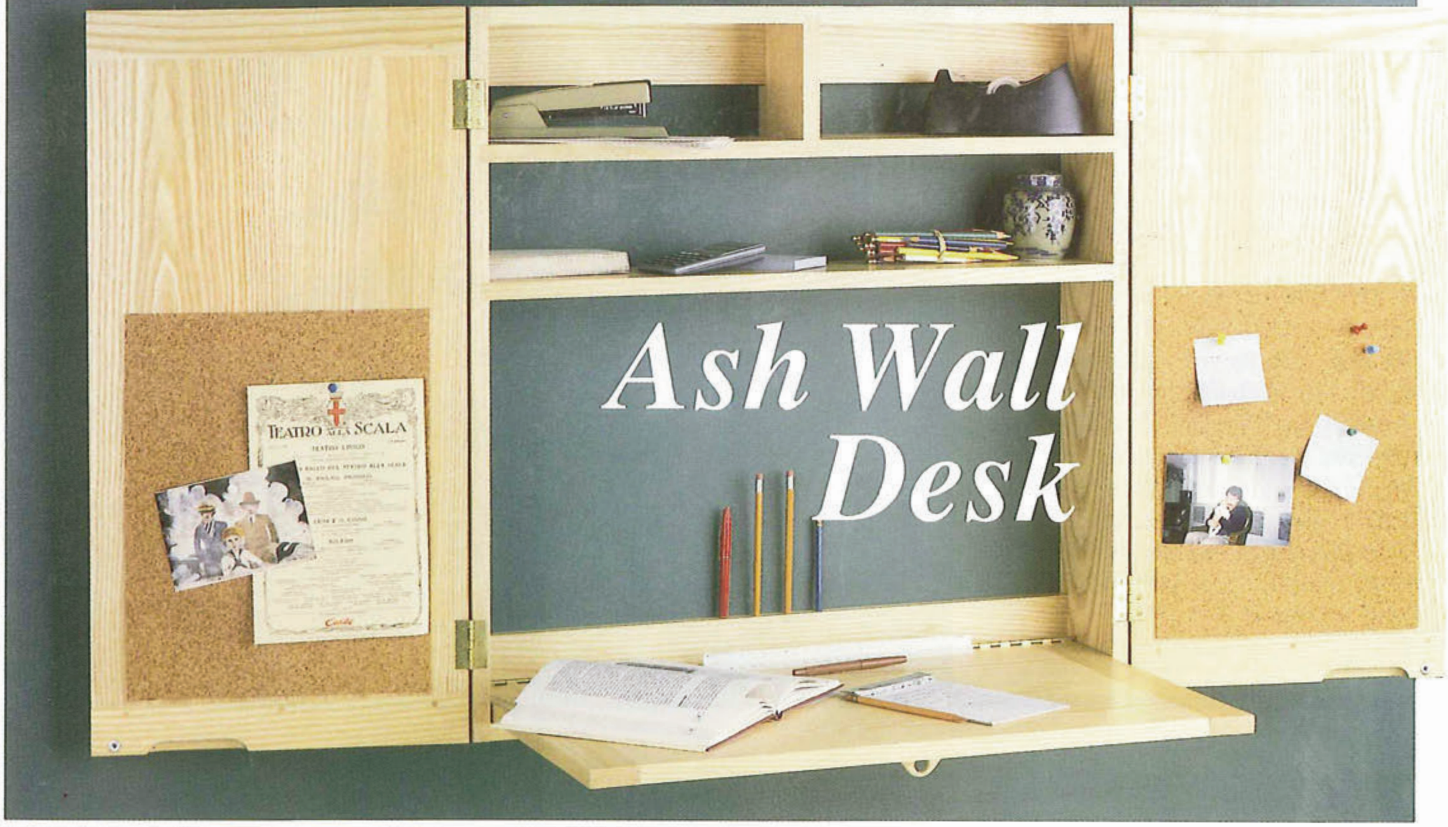

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While waiting for these parts to dry, cut the case parts to size. The sides (A), top and bottom (B) and backs (C) all feature a rabbet-and-dado joint that's easily cut with a 3/8 in. straight cutter on the router table. Set up the router table with a high fence and locate the fence 3/8 in. from the bit. If your router can't plow a full 3/8 in. deep groove in one pass, you can achieve that depth with several passes. The rabbet on the ends of the top and bottom and back is cut with the stock on end (Fig. 1). For the dado in the sides to match the rabbet on the top and bottom, you'll use the miter gauge with the stock laying flat (Fig. 2), and for the stopped groove to match the rabbet on the back, you'll bear the back edge of the sides against the fence (Fig. 3). Set up stops for this last cut, and plunge the stock down over the bit.

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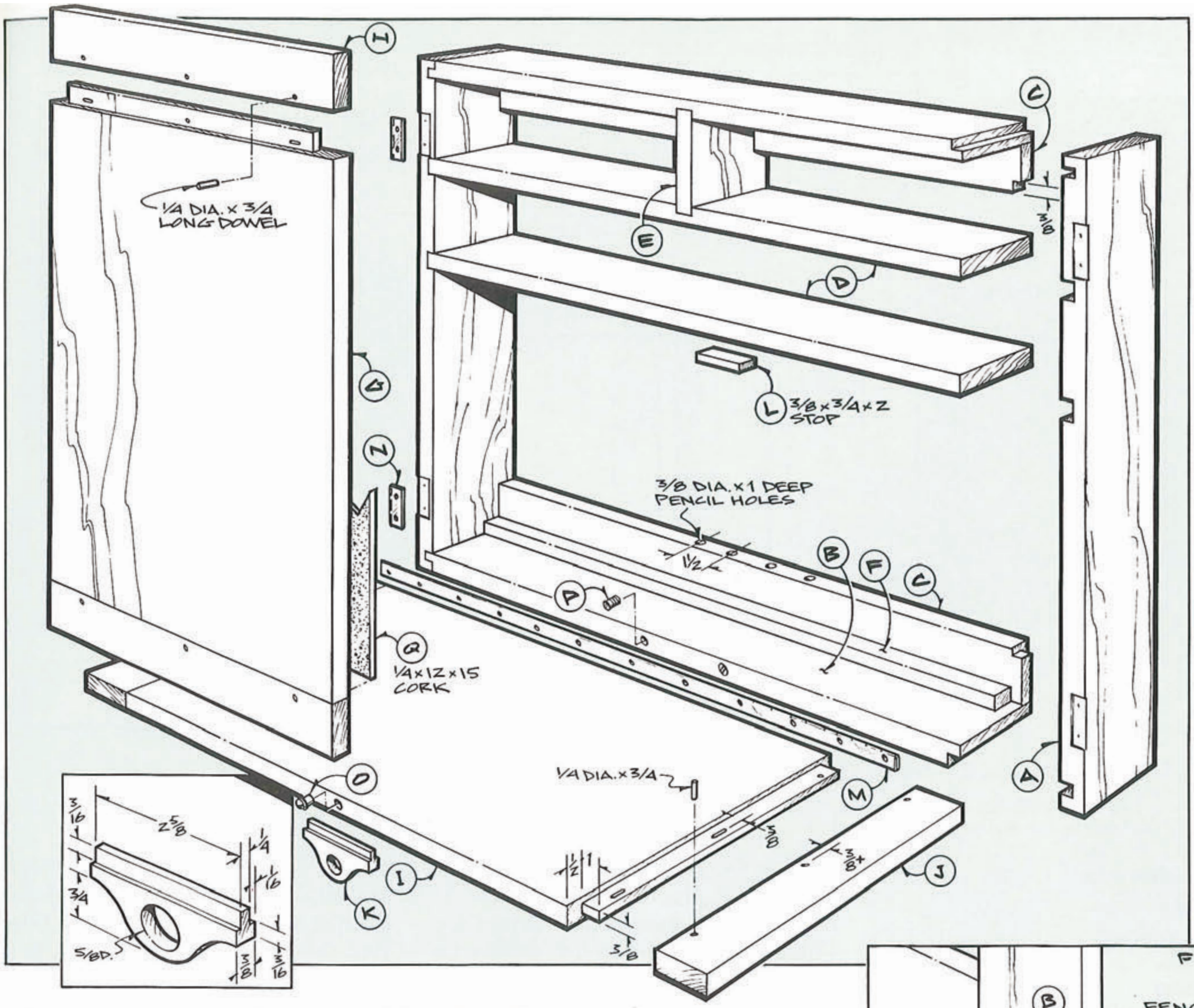
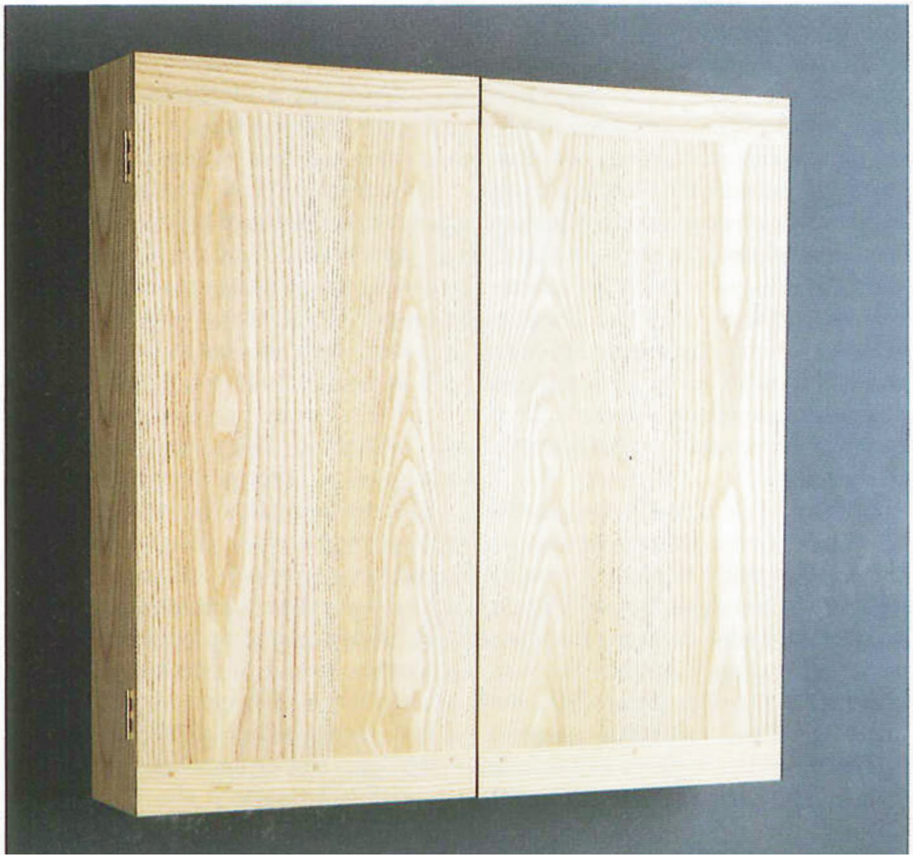
The tongues on the ends of the doors and writing surface are not glued along their full lengths. Instead, 1/4 in. diameter dowel pins provide a mechanical connection. The tongues are sized slightly less in length than the blind grooves that accept them. The extra length of the grooves allows for wood movement in the wide panels.

On the doors the tongue is glued at the center, and slotted holes for the pins near the edges allow movement to either side.





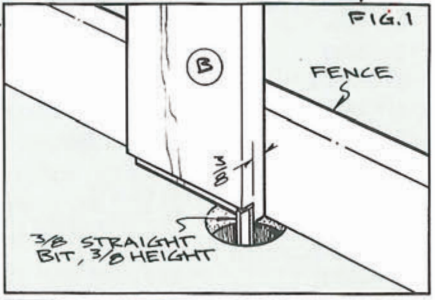


FIG. 1

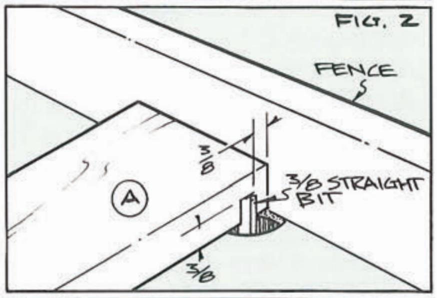


FIG. 2

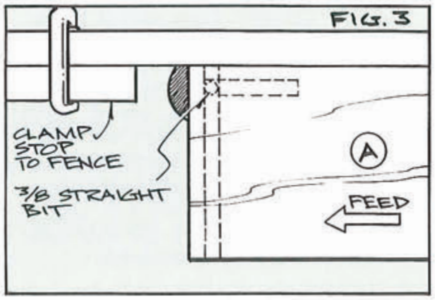
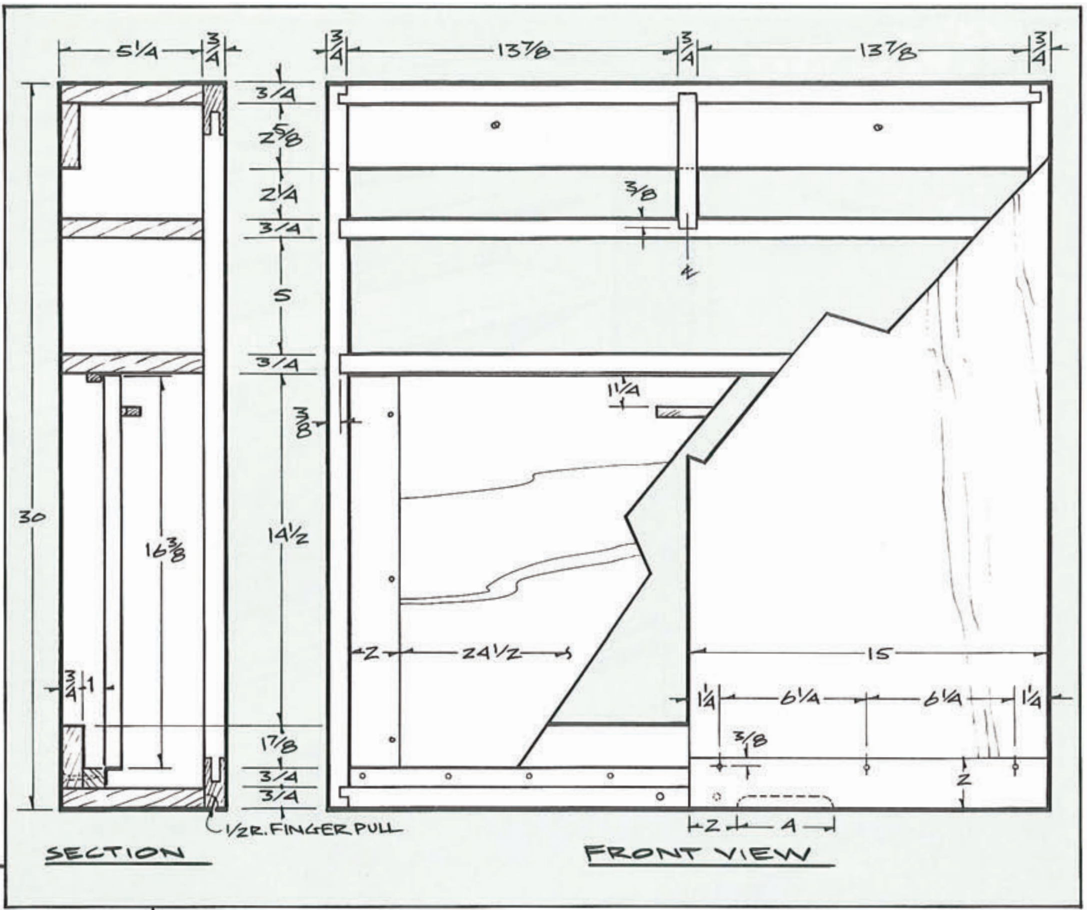


FIG. 3



Bill of Materials

(all dimensions actual)

Part	Description	Size	No. Req'd.
A	Side	3/4 x 5 1/4 x 30	2
B	Top/Bottom	3/4 x 5 1/4 x 29 1/4*	2
C	Back	3/4 x 2 5/8 x 29 1/4*	2
D	Shelf	3/4 x 5 1/4 x 29 1/4	2
E	Divider	3/4 x 5 1/4 x 5 5/8	1
F	Filler	3/4 x 1 x 28 1/2	1
G	Door Panel	3/4 x 15 x 28*	2
H	Breadboard End (door)	3/4 x 2 x 15	4
I	Desk Panel	3/4 x 16 3/8 x 26 1/2*	1
J	Breadboard End (desk)	3/4 x 2 x 16 3/8	2
K	Pull	See Detail	1
L	Stop	3/8 x 3/4 x 2	1
M	Piano Hinge	1 1/2 x 28 1/2**	1
N	Butt Hinge (Solid Brass)	2 in. long x 1 3/8 wide**	2 pair
O	Bullet Catch	3/8 dia. x 7/16**	1
P	Magnetic Catch	9/16 dia.**	2
Q	Cork	1/4 x 12 x 15**	2

* Length includes tongue or tenon.

** Available from Constantine's, 2050 Eastchester Rd., Bronx, NY 10461; tel. (800) 223-8087. Piano hinge is part no. SK36B ($3.40); butt hinge is part no. 73A70C ($2.45 per pair); bullet catch is part no. 75B11A ($3.30 for a package of 10); magnetic catch is part no. 55F25 ($.85 each); cork is part no. SR396 ($17.45 per roll). Note that piano hinge as supplied is 36 in. long. Use a hacksaw to cut it to the required 28 1/2 in. Cork as supplied is 1/8 in. thick. We recommend that you use it double thickness.

But on the writing surface the tongue is glued at the back or hinged edge, and slotted holes for the pins toward the front direct any movement toward the front only. This keeps the back or hinged edge of the writing surface perfectly flush. Since the pins are the only thing holding the breadboard ends in place where no glue was applied, you'll need to make these breadboard ends to very exacting tolerances. Anything less and a gap or step between the breadboard ends and the desk or door panels will show. One tip to help avoid a gap is to slightly offset the pin holes in the breadboard ends away from the joint line. That way the joint will pull tight as the pins are inserted. In order to avoid a step, the thickness of the tongue and the width of the matching groove must be machined for a snug fit.

All that remains are a few details. You'll need a 1/2 in. radius cove cutter in the router to cut the finger recess on the two doors. Then make the pull (K) and stop (L), and mount the hardware. If you can't find it locally, all the hardware including the piano hinge (M), butt hinges (N), bullet catch (O), magnetic catches (P) and cork (Q) can be ordered from a single mail order source (see Bill of Materials for ordering information). Cut the piano hinge to fit inside the case, mount it to the writing surface and filler strip, then screw the filler strip in place through the back and bottom. The bullet catch holds the writing surface in the closed position, and the magnetic catches keep the doors closed.

We drilled a few holes into the top edge of the lower back to serve as pencil holders, and then applied a water-based polyurethane finish. Finally, mount the cork to the inside of the doors. The cork is supplied as 1/8 in. thick roll material, and we suggest using at least two layers to provide thickness enough for the average pushpin. Contact cement is used both to glue the layers of cork together, and to fasten the cork to the doors.

Mount the desk securely. For a stud wall, screw directly through the backs, both top and bottom, into the studs. The 30 in. width of the desk should enable you to hit a pair of 16 in. on-center studs. Locate the desk at a working height that accommodates being seated at a chair. Most desks have the desk top 28 in. off the floor, so the bottom edge of our wall desk should be located 26 1/2 in. up from the floor to place the writing surface at a comfortable height.

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